MULTIMEDIA UNIVERSITY

STUDENT ID NO

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# MULTIMEDIA UNIVERSITY

# FINAL EXAMINATION

TRIMESTER 2, 2018/2019

## TSE2251/TIS2211 -SYSTEMS ANALYSIS AND DESIGN

(All sections / Groups)

14 MARCH 2019
9AM-11AM
(2 Hours)

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**INSTRUCTIONS TO STUDENTS**

1. This Question paper consists of 3 pages including this cover page.
2. This Question paper contains **Five** questions of **10** marks each. Answer **ALL** questions.
3. The distribution of marks for each question is given.
4. Write all your answers in the Answer Booklet provided.

## Question 1

(a) What is system development life cycle (SDLC)? What are the phases involved in SDLC? (3 marks)

(b) What is the difference between the logical and physical design of information systems? (3 marks)

(c) Give FOUR important characteristics of agile methodology and eXtreme programming approaches of information systems. (4 marks)

## Question 2

(a) List the SIX feasibility studies that are conducted for information systems. (3 marks)

(b) A project has been defined to contain the following list of activities along with their required times for completion

| Activity | Time (weeks) | Immediate Predecessors |
|---|---|---|
| 1- collect requirements | 2 | - |
| 2- analyze processes | 3 | 1 |
| 3- analyze data | 3 | 2 |
| 4- design processes | 7 | 2 |
| 5- design data | 6 | 2 |
| 6- design screens | 1 | 3, 4 |
| 7- design reports | 5 | 4, 5 |
| 8- program | 4 | 6, 7 |
| 9- test and document | 8 | 7 |
| 10- install | 2 | 8,9 |

i. Calculate the earliest and latest completion times (5 marks)

ii. Draw the PERT chart(Network Diagram) for the activities (1 mark)

iii. Determine the critical path. (1 mark )

**Continue ...**

## Question 3

(a) Explain the term: Balancing of data flow diagrams. Give an example for unbalanced data flow diagram. (3 marks)

(b) What are the three models that are used for structuring information system requirements? Explain the relationship among these models. (3 marks)

(c) Draw the context and level-0 data flow diagrams for an information system which interacts with customers with regards to hiring videos and periodically sends reports to the management and accounting departments. Assume appropriate data flows among the entities. (4 marks)

## Question 4

(a) Explain the rules which are used for supertype-subtype relationships :

i. Total specialization
ii. Partial specialization
iii. Overlap
iv. Disjoint

What are the rules applicable to the case where the student is the supertype and undergraduate student / graduate student as subtypes? (3 marks)

(b) Assuming that in a marketing organization a salesperson is assigned to each customer and each region, state with reason whether the following relation is in third normal form (3NF). If it is not in 3NF, show how it can be converted to 3NF.

SALES (Customer_ID, Customer_Name, SalesPerson, Region)

(3 marks)

(c) Explain FOUR guidelines that are used for designing forms and reports. (4 marks)

## Question 5

(a) Explain with diagrams the dialogue diagraming method which is used in the design of human-computer dialogues. (3 marks)

(b) Explain the two types of system documentation: Internal and External documentation. (3 marks)

(c) What is the difference among the four types of system maintenance: corrective, adaptive, perfective and preventive? (4 marks)

**End of QP**